

REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed March 3, 2006. Claims 1-36 are pending and stand rejected. Applicants respectfully request reconsideration and favorable action in this case.

Section 112 Rejection

The Examiner rejects Claims 1-36 under 35 U.S.C. § 112, second paragraph, "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." (Final Office Action, page 2.) The Examiner states, "In each of the independent claims, the term 'a first line communicating a first signal' is indefinite, as the line does not communicate the signal, but the end users do." (Final Office Action, page 2.)

Applicants respectfully disagree. Webster's II New College Dictionary defines the word "communicate" as "to transmit information." *Webster's II New College Dictionary* 227 (2001). In the field of telecommunications, lines transmit information in signals. For this reason, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-36 under 35 U.S.C. § 112.

Section 103(a) Rejection

The Examiner rejects Claims 1-4, 6, 10-16, 20-23, 25, 29-32, and 36 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,887,032 to Cioffi ("*Cioffi*") in light of assertions made by the Examiner. Applicants respectfully traverse this rejection and the Examiner's assertions for the reasons discussed below.

Applicants respectfully submit that *Cioffi* fails to disclose, teach, or suggest elements specifically recited in Applicants' claims. For example, *Cioffi* fails to disclose, teach, or suggest "determining the phase of the crosstalk on the first line," and "communicating the first signal on the first line in response to the phase," recited in Claim 1.

The Examiner relies on column 11, lines 18-23 of *Cioffi* to teach this limitation. (Final Office Action, page 3.) *Cioffi*, however, teaches reducing crosstalk by estimating crosstalk, and then subtracting the estimated crosstalk from received signals. (*Cioffi*, column 5, lines 55-61.) According to *Cioffi*:

The crosstalk canceller 506 estimates the crosstalk induced from the transmitting line 500 to the receiving line 502.

Then an adder/subtractor 508 subtracts the estimated crosstalk from the received signals, thereby eliminating or mitigating the NEXT interference.

(*Cioffi*, column 11, lines 18-23.) Therefore, *Cioffi* fails to disclose, teach, or suggest “determining the phase of the crosstalk on the first line,” and “communicating the first signal on the first line in response to the phase,” recited in Claim 1. Accordingly, Claim 1 is allowable.

In fact, the Examiner was correct in the First Office Action mailed Sept. 20, 2005 (“First Office Action”) when the Examiner originally conceded, “*Cioffi* does not, however, teach the solution to comprise ... determining a phase of the crosstalk detected on the first line, and then communicating a first signal on the first line in response to the phase.” (First Office Action, page 2.)

Independent Claims 13, 20, 30, and 36 recite certain limitations substantially similar to those recited in independent Claim 1. Accordingly, for at least similar reasons, independent Claims 13, 20, 30 and 36 are allowable.

The Examiner takes Official Notice that “DSL is commonly implemented using TDD.” (Office Action, page 3.) Applicants disagree because DSL systems may use frequency domain duplexing (FDD) instead of time domain duplexing (TDD). Applicants respectfully request that the Examiner cite a reference in support of this position or provide an affidavit in accordance with M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

The Examiner rejects Claims 5, 7-9, 17-19, 24, 26-28, and 33-35 under 35 U.S.C. § 103(a) as being unpatentable over *Cioffi* and in light of U.S. Patent No. 6,807,236 to Fujimura (“*Fujimura*”). Applicants respectfully traverse this rejection for the reasons discussed below.

For reasons similar to the ones discussed above, *Cioffi* fails to disclose, teach, or suggest the elements specifically recited in the independent claims, whether *Cioffi* is considered alone or in combination with *Fujimura*. Accordingly, the independent claims are allowable over the *Cioffi-Fujimura* combination proposed by the Examiner.

Applicants’ dependent claims are allowable based on their dependence on the independent claims and further because they recite numerous additional patentable distinctions over the references of the rejection. For example, the *Cioffi-Fujimura*

combination proposed by the Examiner fails to disclose, teach, or suggest “wherein determining a phase of the crosstalk detected on the first line comprises, ... the pulse sequence comprising a plurality of first pulses communicated in the first direction and a plurality of second pulses communicated in the second direction,” recited in Claim 3. As discussed above, *Cioffi* does not determine a “phase of crosstalk detected on the first line,” recited in Claim 3. Moreover, the phase comparator 103 of *Fujimura* compares clock signals 4 and 6 communicated in the same direction. (See, e.g., *Fujimura*, column 3, lines 29-36.) Accordingly, the *Cioffi-Fujimura* combination proposed by the Examiner fails to disclose, teach, or suggest all of the elements specifically recited in Claim 3. Claims 15, 22, and 31 are allowable for similar reasons.

Because Applicants believe they have amply demonstrated the allowability of the independent claims over the references of the rejection, and to avoid burdening the record, Applicants have not provided additional detailed remarks concerning these dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

In addition, Applicants respectfully submit that *Cioffi* cannot be properly combined with *Fujimura* because there is no reasonable expectation of success. The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. MPEP §2143.02 (citing *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)).

Cioffi discloses a near-end crosstalk (NEXT) canceller inserted between one line transmitting signals downstream and another line receiving signals from downstream. According to *Cioffi*:

The NEXT interference 504 shown in FIG. 5A is eliminated or mitigated by a NEXT canceller 506 inserted between the lines. ... The crosstalk canceller 506 estimates the crosstalk induced from the transmitting line 500 to the receiving line 502.

(*Cioffi*, column 11, lines 12-20.) *Cioffi* also discloses:

In any case, the conceptual diagram of FIG. 5A has one line 500 currently transmitting signals downstream and another line 502 receiving signals from downstream.

(*Cioffi*, column 10, lines 63-66.) That is, the NEXT canceller 506 of *Cioffi* is inserted between one line 500 transmitting signals downstream and another line 502 receiving signals from downstream.

Fujimura discloses a phase comparator of a sending system that compares clock signals to yield trigger signals indicating possible crosstalk timings to send to a receiving system. (*Fujimura*, column 3, lines 17-36.) According to *Fujimura*:

The phase comparator 103 compares the clock signals 4 and 6 to produce monostable trigger signals 13 and 14 each indicating possible crosstalk timings, at which crosstalk may be generated at the receiving system 2. More specifically, the trigger signal 13 indicates the timing of possible crosstalk from the data signal 9 to the data signal 7 and the trigger signal 14 indicates the timing of possible crosstalk from the data signal 7 to the data signal 9.

(*Fujimura*, column 3, lines 29-36.) That is, the phase comparator 103 compares the clock signals 4 and 6 to yield trigger signals 13 and 14 indicating possible crosstalk timings to send to the receiving system 2.

Applicants respectfully submit that there is no reasonable expectation of success that the phase comparator 103 of *Fujimura* can compare upstream and downstream signals of *Cioffi* to yield trigger signals 13 and 14 that can be used in *Cioffi* to reduce crosstalk. Accordingly, *Cioffi* cannot be properly combined with *Fujimura* to disclose, teach, or suggest the elements of Claim 1.

For at least the above reasons, Applicants respectfully request reconsideration and allowance of independent Claims 1, 13, 20, 30, and 36 and all claims that depend on these claims.

CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all the pending claims.

If the Examiner believes a telephone conference would advance prosecution of this case in any way, the Examiner is invited to contact Keiko Ichiye, the Attorney for Applicants, at the Examiner's convenience at (214) 953-6494.

Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Keiko Ichiye
Reg. No. 45,460

Date: April 5, 2006

Correspondence Address:

Customer Number: 05073